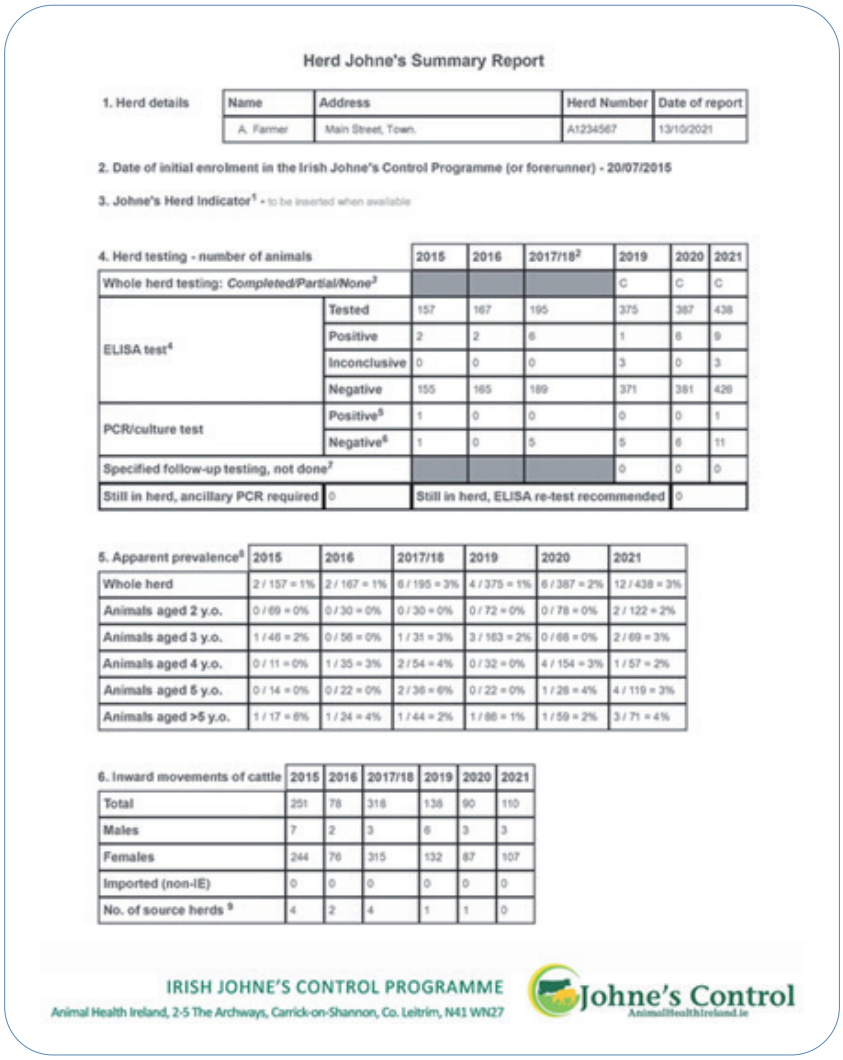
Reduce the risk of Johne's disease spread at calving time on your farm

Liam Doyle, Johne's disease Programme Manager

With calving season just around the corner it is a good time to review the most recent risk assessment (VRAMP) you completed in conjunction with your veterinary practitioner. The VRAMP can be used to provide a focus on reducing the risk of Johne's disease spread on your farm at calving time. In order to access information relating to your VRAMP you should firstly log onto your ICBF Johne's web page go to the herd summary report under the list of options which gives a lot of useful general information. Within the herd report, Section 7 (VRAMP) gives a breakdown of different risk areas for Johne's disease spread and your farm score for each of these, with lower totals indicating better performance (Figure 1 and 2).



Herd Johne's Summary Report

1. Herd details

Name	Address	Herd Number	Date of report
A. Farmer	Main Street, Town.	A1234567	13/10/2021

2. Date of initial enrolment in the Irish Johne's Control Programme (or forerunner) - 20/07/2015

3. Johne's Herd Indicator[1] - to be inserted when available

4. Herd testing - number of animals		2015	2016	2017/18[2]	2019	2020	2021
Whole herd testing: *Completed/Partial/None*[3]					C	C	C
ELISA test[4]	Tested	157	167	195	375	387	438
	Positive	2	2	6	1	6	9
	Inconclusive	0	0	0	3	0	3
	Negative	155	165	189	371	381	426
PCR/culture test	Positive[5]	1	0	0	0	0	1
	Negative[6]	1	0	5	5	6	11
Specified follow-up testing, not done[7]					0	0	0
Still in herd, ancillary PCR required	0	Still in herd, ELISA re-test recommended			0		

5. Apparent prevalence[8]	2015	2016	2017/18	2019	2020	2021
Whole herd	2 / 157 = 1%	2 / 167 = 1%	6 / 195 = 3%	4 / 375 = 1%	6 / 387 = 2%	12 / 438 = 3%
Animals aged 2 y.o.	0 / 69 = 0%	0 / 30 = 0%	0 / 30 = 0%	0 / 72 = 0%	0 / 78 = 0%	2 / 122 = 2%
Animals aged 3 y.o.	1 / 46 = 2%	0 / 56 = 0%	1 / 31 = 3%	3 / 163 = 2%	0 / 68 = 0%	2 / 69 = 3%
Animals aged 4 y.o.	0 / 11 = 0%	1 / 35 = 3%	2 / 54 = 4%	0 / 32 = 0%	4 / 154 = 3%	1 / 57 = 2%
Animals aged 5 y.o.	0 / 14 = 0%	0 / 22 = 0%	2 / 36 = 6%	0 / 22 = 0%	1 / 28 = 4%	4 / 119 = 3%
Animals aged >5 y.o.	1 / 17 = 6%	1 / 24 = 4%	1 / 44 = 2%	1 / 86 = 1%	1 / 59 = 2%	3 / 71 = 4%

6. Inward movements of cattle	2015	2016	2017/18	2019	2020	2021
Total	251	78	316	138	90	110
Males	7	2	3	6	3	3
Females	244	76	315	132	87	107
Imported (non-IE)	0	0	0	0	0	0
No. of source herds[9]	4	2	4	1	1	0

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Animal Health Ireland, 2-5 The Archways, Carrick-on-Shannon, Co. Leitrim, N41 WN27

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Figure 1. Page one of Herd Johne's summary report.

Within the herd report, Section 7 (VRAMP) gives a breakdown of different risk areas for Johne's disease spread and your farm score for each of these, with lower totals indicating better performance.

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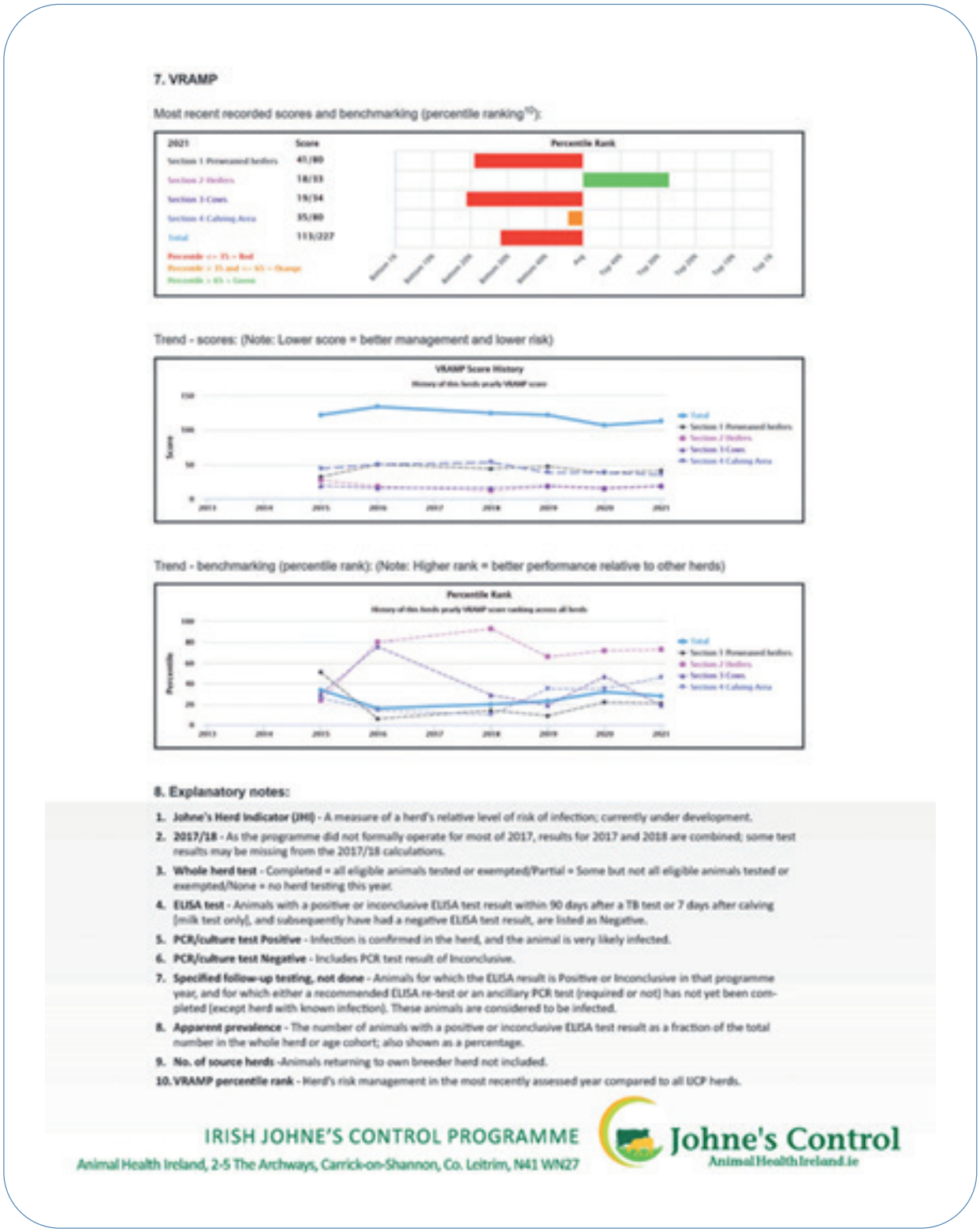

7. VRAMP

Most recent recorded scores and benchmarking (percentile ranking[10]):

2021	Score
Section 1 Permanent herders	41/80
Section 2 Heifers	18/33
Section 3 Cows	19/34
Section 4 Calving Area	35/80
Total	113/227

Percentile <= 35 = Red
Percentile > 35 and <= 65 = Orange
Percentile > 65 = Green

Percentile Rank

Trend - scores: (Note: Lower score = better management and lower risk)

VRAMP Score History

History of this herds yearly VRAMP score

Score

Trend - benchmarking (percentile rank): (Note: Higher rank = better performance relative to other herds)

Percentile Rank

History of this herds yearly VRAMP score ranking across all herds

Percentile

8. Explanatory notes:

1. **Johne's Herd Indicator (JHI)** - A measure of a herd's relative level of risk of infection; currently under development.
2. **2017/18** - As the programme did not formally operate for most of 2017, results for 2017 and 2018 are combined; some test results may be missing from the 2017/18 calculations.
3. **Whole herd test** - Completed = all eligible animals tested or exempted/Partial = Some but not all eligible animals tested or exempted/None = no herd testing this year.
4. **ELISA test** - Animals with a positive or inconclusive ELISA test result within 90 days after a TB test or 7 days after calving (milk test only), and subsequently have had a negative ELISA test result, are listed as Negative.
5. **PCR/culture test Positive** - Infection is confirmed in the herd, and the animal is very likely infected.
6. **PCR/culture test Negative** - Includes PCR test result of Inconclusive.
7. **Specified follow-up testing, not done** - Animals for which the ELISA result is Positive or Inconclusive in that programme year, and for which either a recommended ELISA re-test or an ancillary PCR test (required or not) has not yet been completed (except herd with known infection). These animals are considered to be infected.
8. **Apparent prevalence** - The number of animals with a positive or inconclusive ELISA test result as a fraction of the total number in the whole herd or age cohort; also shown as a percentage.
9. **No. of source herds** -Animals returning to own breeder herd not included.
10. **VRAMP percentile rank** - Herd's risk management in the most recently assessed year compared to all IJCP herds.

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Figure 1B. Page two of Herd Johne's summary report.

Figure 2. Risk assessment (VRAMP) subsection of the herd Johne's summary report.

In order to focus on the information contained in the VRAMP for calving area the scores and risk areas underpinning this assessment can be accessed on the ICBF webpage. Navigate to your herd Johne's dashboard and when on the dashboard under the 'Herd Details' section click on 'Date of last VRAMP' which will take you to your own report (Figure 3).

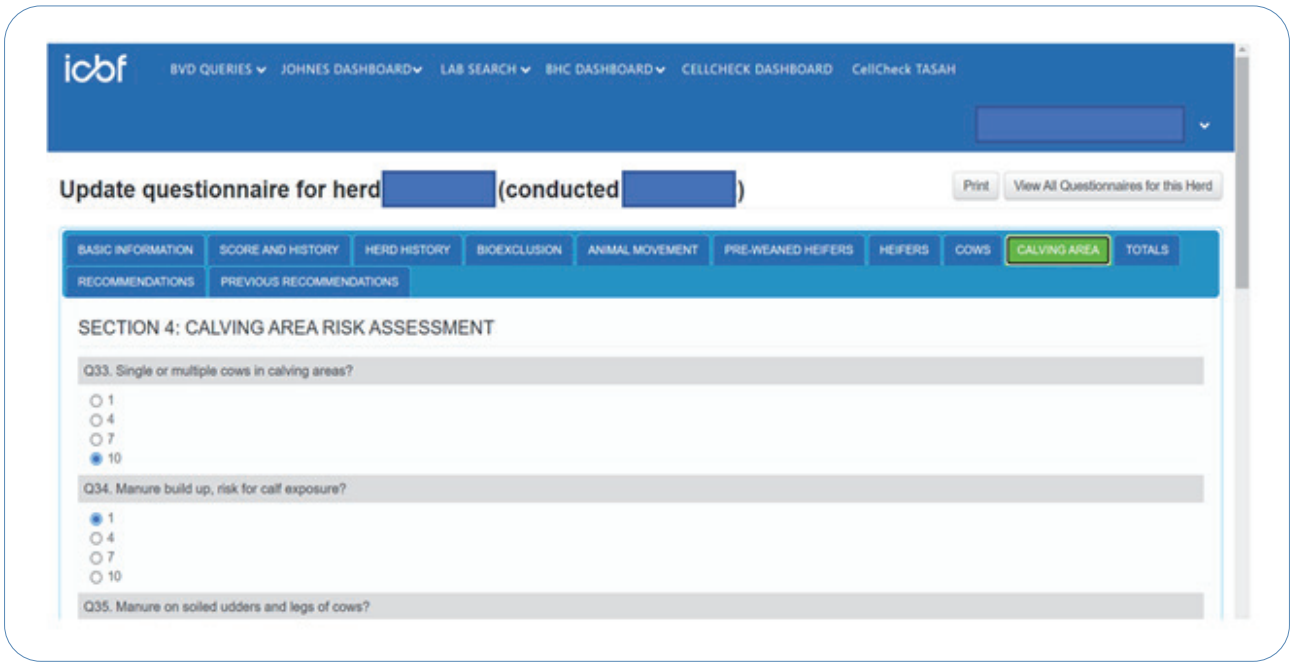

Figure 3. Breakdown of Section 4 calving area risk assessment.

What risks should I look out for in the calving area?

- **Single or multiple cows in calving area?** This question assesses the risk associated with the calving pen/area containing more than one cow; where increased numbers of animals exposes newly born calves to greater risk.
- **Manure build up, risk for calf exposure?** Provision of pens for calving that are not contaminated by dung from other animals, especially adult animals that could be high-risk for Johne's infection through ingestion of MAP (Mycobacterium avium ssp. paratuberculosis) bacteria.
- **Manure on soiled udders and legs of cows?** Calves are very susceptible to infection with Johne's disease, especially the newly born. Most infection occurs when the calf swallows faecal matter on the teats or in the milk or colostrum.
- **Calving area used for lame or sick cows?** Do not use calving pens to hold sick or lame animals. As well as contaminating the pen with adult's manure, sick and lame animals are higher than normal risk of being infected with Johne's disease.
- **Prepare a separate pen with a crush or other handling facility that will not be used for calving.** Try to separate the calving area away from the general handling facilities that will be used to examine and treat other sick animals in the herd.
- **Calving area used for Johne's disease clinical or Johne's disease positive cows?** Identification of high risk cows (test positive or inconclusive or offspring of infected cows) is one of the advantages of testing your herd for Johne's disease. The Johne's programme advises the removal of these animals from the farm before calving; however, if retained, separate these animals from others during the pre-calving period and calve these animals in a separate shed/facility from your lower risk animals
- **Birth of calves in areas other than designated calving area?** It is important to try and have calves born in designated well managed calving facilities as calves born particularly in shared areas such as passageways or cubicle sheds are at very high risk of MAP infection if the environment is contaminated by infected cows..
- **Likelihood of calf nursing cow(s)?** Calves which do not have access to suckle a cow will have reduced risk for ingestion of MAP bacteria from faecal contamination on their mother's skin. Good management of suckling will allow the farmer to feed calves colostrum from lower risk cattle in the herd.
- **How fast are newborn calves removed from their mothers?** Reduced exposure of the calf to the cow environment reduces the risk of MAP ingestion by the calf, which means that the more quickly a calf is taken from the cow the better is the chance that it will not be infected.